

Public economics: Inequality and Poverty

Chris Belfield

Overview

- Measuring living standards
 - Why do we use income?
 - Accounting for inflation and family composition
- Income Inequality
 - The UK income distribution
 - Measures of income inequality
 - Income inequality across and within ages
- Income Poverty
 - Measuring income poverty
 - How do we treat housing costs?
- Summary



Why income?

- Economic analysis tends to focus on income inequality and income poverty
 - not because income is the only thing that matters...
 - ...but because it is arguably the best measure of living standards we've got
- Consumption is conceptually a better indicator of living standards
 - Income snapshots can be misleading
 - But it is difficult to measure...



Those with the lowest incomes do not have the lowest consumption...



Institute for Fiscal Studies

Source: Brewer and O'Dea (2012)

Material Deprivation

- We can also look at another measure of hardship material deprivation
- This is an indicator of families being unable to afford certain items
 - e.g a warm winter coat or to save £10 a month
- The answers to these questions are used to create a "deprivation score" out of 100
- Items that the majority of the population can afford are given more weight



... Nor do they have the highest material deprivation scores







Measurement of income

- Income as measured by government in "Households Below Average Income" (HBAI)
- Based on Family Resources Survey (from 1994-5 onwards)
 - 20,000 households across the UK
 - Subject to sampling error
- Income is measured net of direct taxes and benefits
- Measured at the household level (implicitly assumes income sharing)
- Adjusted for inflation



RPI and its problems

- In the official statistics RPI is used to account for inflation over time
- However recently RPI has been thought to overstate inflation due to a "formula effect"
 - Given the same price changes the RPI methodology will measure inflation to be around 1% higher than CPI
- It has been declassified as an official statistic
- An alternative is RPIJ



Adjusting for inflation



Source: Figure 2.4 of *Living Standards, Poverty and Inequality: 2013* Notes: The RPI line is in fact RPI minus council tax, the inflation measure currently used to adjust HBAI incomes



Measurement of income

- Income as measured by government in "Households Below Average Income" (HBAI)
- Based on Family Resources Survey (from 1994-5 onwards)
 - 25,000 households across the UK
 - Subject to sampling error
- Income is measured net of direct taxes and benefits
- Measured at the household level (implicitly assumes income sharing)
- Adjusted for inflation
- Adjusted for household size (equivalised)



Adjusting for household size





Income inequality







© Institute for Fiscal Studies

Source: Figure 3.1 of Living Standards, Poverty and Inequality: 2014

Institute for Fiscal Studies



Source: Figure 3.1 of Living Standards, Poverty and Inequality: 2014



Source: Figure 3.1 of Living Standards, Poverty and Inequality: 2014



Source: Figure 3.1 of Living Standards, Poverty and Inequality: 2014



Source: Figure 3.1 of Living Standards, Poverty and Inequality: 2014



Source: Figure 3.1 of Living Standards, Poverty and Inequality: 2014







Measuring income inequality: the Gini coefficient



Percentage of population, ranked by income



Gini coefficient: 1979 to 2009–10



Source: Figure 3.3 of *Living Standards, Poverty and Inequality: 2014*



Why did income inequality rise?

- Lots of explanations
 - Skills-biased technological changes [see Acemoglu (2002), Machin (2001) and Goldin and Katz (2008)]
 - Labour market institutions: weaker trade unions and a decline of collective bargaining (Goodman and Shephard 2002)



Why did income inequality rise?

• Quantile regression and Chambelain (1994)

Sector	0.1	0.25	0.5	0.75	0.9	OLS
Manufacturing	0.281	0.249	0.169	0.075	-0.003	0.158
	(0.12)	(0.12)	(0.11)	(0.1)	(0.11)	(0.14)
Non-manufacturing	0.47	0.406	0.333	0.248	0.184	0.327
Ŭ	(0.14)	(0.14)	(0.13)	(0.16)	(0.18)	(0.16)



Why did income inequality rise?

- Lots of explanations
 - Skills-biased technological changes [see Acemoglu (2002), Machin (2001) and Goldin and Katz (2008)]
 - Labour market institutions: weaker trade unions and a decline of collective bargaining (Goodman and Shephard 2002)
 - More inequality in employment status across households (Gregg and Wadsworth, 2008)
 - Changes in the tax and benefit system



Replacing tax/benefit system with those from previous years (UK)

Increase in Gini relative to 2009-10



Institute for

Fiscal Studies

Note: Tax and benefit systems from previous years have been uprated in line with the Retail Prices Index. Years up to and including 1992 are calendar years; thereafter, years refer to financial years.

Gini coefficient: 1979 to 2012–13



Source: Figure 3.3 of Living Standards, Poverty and Inequality: 2014

Real income growth by percentile point



Source: Figure 3.2 of Living Standards, Poverty and Inequality: 2014



Inequality by age

- So far we have only discussed inequality in the whole income distribution
- This conflates two types of inequality we might be interested in:
 - Inequality across ages
 - Inequality between people of the same age
- This is important as we might care more about inequality in total lifetime resources than income differences between working age individuals and pensioners



Inequality across ages



Inequality within ages



Inequality by age

- Between 1978-79 and 2007-08 inequality between ages fell as pensioners become relatively less poor
- At the same time inequality within age rose
- Looking at inequality in the whole income distribution conflates these two effects
- Since 2007-08 the fall in inequality has been the result of falls in inequality both within and between ages



Poverty





What is poverty?

- Destitution, relative deprivation, capability or functioning in society, livelihood sustainability?
 - What can we measure?
- Economists have tended to define poverty as having income below a certain "poverty line"
- One alternative is a "poverty gap" measure
 - weights people according to how far they are below the poverty line
 - but the data towards the bottom of the income distribution is not good enough



Poverty lines

- 2 types of poverty lines are used
- 1. Absolute Poverty lines
 - Defined as a certain level of real-terms income
 - Example: \$1 a day poverty line (in 1990 prices) (Ravallion et al 1991), US government basket of goods and services
 - However in the UK we typically use a 60% of 2010/11 median income



Calculating absolute poverty



Income



Absolute poverty over time



Income



Absolute poverty over time



Income



Poverty lines

- 2 kinds of poverty lines are used
- 1. Absolute Poverty lines
 - Defined as a certain level of real-terms income
 - Example: \$1 a day poverty line (in 1990 prices) (Ravallion et al 1991)
 - However in the UK we typically use a 60% of 2010/11 median income
- 2. Relative Poverty lines
 - Defined as a certain percentage of median income in the country
 - UK government uses 60% of median income for child poverty targets



Calculating relative poverty





Relative poverty over time – a moving target





Why look at relative **and** absolute poverty?

- Relative poverty is really a measure of inequality between the middle and the bottom of the income distribution
 - Particularly problematic when median income is falling
- Absolute poverty lines become irrelevant in the long run
 - Often moved on an ad hoc basis eg. 2010 baseline for 2020 child poverty targets
- Changes in absolute poverty perhaps more significant in the short run, with changes in relative poverty more significant in the long run



- We typically create two alternative measures of household income
 - Before Housing Costs (BHC)
 - After Housing Costs (AHC)
- We could use either to create a measure of poverty
- Which is better depends on how we think about spending on housing
 - BHC income treats housing costs like any other form of consumption
 - AHC income treats housing as a fixed cost that households have little or no choice over
- It can also depend on other factors that are driving housing cost changes



- Before looking at recent trends it is important to understand how the two income measures are calculated over time.
- BHC incomes are spent on basket of goods that includes housing, therefore housing costs are included in the inflation measure.
 - This means that the average trend in housing costs is removed as it forms part of inflation, but variation in individuals' housing costs from the mean will not be removed
- AHC incomes are, by definition, not spent on housing. Therefore a different measure of inflation excluding housing costs is used
 - All variation in housing costs is removed





Source: Figure 4.1 of Living Standards, Poverty and Inequality: 2014





Source: Figure 4.1 of Living Standards, Poverty and Inequality: 2014





Source: Figure 4.1 of Living Standards, Poverty and Inequality: 2014



Real mean housing costs by tenure





Source: Figure 2.7 of Living Standards, Poverty and Inequality: 2014

Material Deprivation

• Another measure of hardship is material deprivation



Child material deprivation – regional variation



Source: Figure 4.5 of Living Standards, Poverty and Inequality: 2014

Summary

- When using measures of living standards it is important to correctly account for inflation and household composition
- Income inequality rose quickly across the distribution in the 1980s and fell during the recession
- Poverty can be defined according to an absolute or relative income measure
- AHC poverty has been a better measure of changes in recent years



References (1)

- Acemoglu, D. (2002)"Technical Change, Inequality and the Labor Market", Journal of Economic Literature 40 (1)
- Adam, S., and Browne ,J. (2010) "Redistribution, work incentives and thirty years of UK tax and benefit reform", IFS Working Paper 10/24
- Belfield, Cribb, Hood and Joyce (2014) "Living Standards, Poverty and Ineqaulity in the UK: 2013" IFS Report R86
- Brewer, M., and O'Dea, C. (2012) "Measuring Living Standards with income and consumption: Evidence from the UK", IFS Working Paper W12/12
- Browne, J., Hood, A. and Joyce, R. (2013) "Child and working-age poverty in Northern Ireland from 2010 to 2020", IFS Report R78
- Cribb, J., Hood, A., Joyce, R., and Phillips, D. (2013) "Living Standards, Poverty and Inequality in the UK: 2013" IFS Report R81



References (2)

- Cribb, J., Joyce, R., and Phillips, D. (2012) "Living Standards, Poverty and Ineqaulity in the UK: 2013" IFS Report RX
- Goldin, C., and Katz, L. (2008) "The Race Between Education and Technology", Harvard University Press, Cambridge MA
- Goodman, A. and Shephard, A. (2002), Inequality and living standards in Great Britain: some facts, IFS Briefing Note 19, Institute for Fiscal Studies, London
- Gregg, P. and Wadsworth, J. (2008) "Two Sides to Every Story: Measuring Polarization and Inequality in the Distribution of Work", Journal of the Royal Statistical Society Series A
- Machin, S. (2001) "The Changing Nature of Labour Demand in the New Economy and Skill-Biased Technology Change", Oxford Bulletin of Economics and Statistics 63 (S1)
- Ravallion, M., Datt, G., and van de Walle, D. (1991) "Quantifying Absolute Poverty in the Developing World," Review of Income and Wealth no.37 pp 345-361

